

REMARKS

Claims 1-104 were presented for examination. Pursuant to the Examiner's restriction requirement, claims 1 through 76 remain in the case and claims 77 through 104 have been withdrawn.

The Examiner has rejected all of the now pending claims under Section 103(a) as being unpatentable over Singleton et al., U.S. 5,849,960, in view of Goble et al., U.S. 3,253,055, and Vora et al., U.S. 5,012,021. The Examiner states that the '960 reference teaches a process of preparing anionic surfactants by isomerizing an olefin feed having at least seven carbon atoms. Converting the olefin to an alcohol by hydroformylation, and ultimately separating the material to obtain a surfactant. The '055 reference is said to teach isomerization and cracking of paraffins to prepare isoparaffins and the '021 reference is said to teach the dehydrogenation of paraffins to obtain olefins. The Examiner states that this establishes a prima facie case of obviousness. The Applicants disagree with the Examiner's conclusion that a prima facie case of obviousness has been established and respectfully traverse the rejection.

There is very old technology in which higher linear olefins are made from ethylene and then hydroformylated to make linear alcohols which then can be further processed into surfactants. The '960 reference teaches a process for making selectively branched alcohols by starting with linear alcohols. The alcohols are made from olefins by isomerization and hydroformylation.

The present invention describes taking paraffinic wax (which is linear) and then hydrocracking and hydroisomerizing the paraffin wax to produce an isoparaffinic composition comprising 0.5 percent or less quaternary aliphatic carbon atoms wherein the branched paraffins comprise an average number of branches per paraffin molecule of at least 0.7 calculated over the total of branched paraffins and linear paraffins present and wherein the branches comprise at least some methyl branches and optionally some ethyl branches. This isoparaffinic composition is dehydrogenated to produce a branched olefin composition which is then converted into a surfactant.

As admitted by the Examiner, the '960 reference does not describe a process for making isoparaffinic compositions from linear paraffins and then converting the isoparaffinic compositions into branched alcohols by hydrocracking and hydroisomerization. The Examiner has attempted to overcome this deficiency by citing the secondary references. The Applicants assert that there is no reason described in any of the references why these three references should

be combined. The law requires that there be motivation present in the references to combine them. Also, the Applicants assert that the overall combination of these three references does not add up to, suggest, or disclose their invention.

'960 clearly relates to the same subject matter as the present application. '055, which is cited to show isomerization and cracking of paraffins to prepare isoparaffins is not related in any way to the technology of the present invention, i.e., making surfactants from paraffinic waxes. The only indication of the usefulness of the materials made according to '055 appears in column 1, lines 20-25, wherein it is stated that the isoparaffins are desirable because they have higher octane numbers than paraffins. Clearly then, '055 is related to fuels and no one of ordinary skill in the art would think to connect a reference dealing with fuels to a reference dealing with making surfactants.

The Applicants also believe that the '021 patent is not related to the technology of the present invention even though it talks about making materials which can be made into detergents. However, the detergents which can be made with the product of the process of '021 are entirely different detergents from those that can be made with the product of the process of the present invention. Detergents made with products of the present invention are the higher value alcohol-based detergents. Detergents made with the product of '021 are the lower value alkyl aromatic hydrocarbon detergents. Thus, the Applicants assert that it is highly unlikely that one of ordinary skill in the art would think to use the alkyl aromatic hydrocarbon technology of '021 in combination with the '960 disclosure.

The Applicants also assert that, even taken together, the combination of references does not add up to, disclose, or suggest their invention as presently claimed. '055 teaches making isoparaffinic compositions which have as high as an octane number as possible because high octane numbers are better for fuels. The high octane isoparaffinic compositions have a very high degree of branching. Such materials have a high content of quaternary aliphatic carbon atoms. As described in the specification, a high level of such quaternary aliphatic carbon atoms is undesirable because the biological methods used to break down these materials in waste water are ineffective whereas they are effective for materials which have a very small amount of quaternary aliphatic carbon atoms, such as the materials that are produced according to the present invention. Thus, this reference combined with the other two only teaches materials which have a high content of quaternary aliphatic carbon atoms whereas the present invention, for environmental reasons, must have 0.5 percent or less quaternary aliphatic carbon atoms.

The Applicants assert that claims 33 and 34 are independently patentable over this combination. Claims 33 and 34 require that the source of the paraffins is a Fischer Tropsch reaction. Paraffins made by this synthesis method are not disclosed in any of the cited references.

Based on the above, the Applicants assert both that the combination is not proper because there is no motivation shown in the references to combine them for any purpose and because the combination itself is insufficient to add up to, disclose, or suggest the present invention.

Respectfully submitted,

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